

Tuberculosis Screening and Testing for Occupational Purposes
Virginia Department of Health
Division of Clinical Epidemiology – TB Program

BACKGROUND

Many types of occupations and employers require the evaluation of employees for active tuberculosis (TB) disease or the risk of active tuberculosis disease. Typically, tuberculosis evaluation is required for those working in health care settings as well as others working with vulnerable populations. The purpose of screening and testing for TB varies with the occupational group, and ensures that individuals with active tuberculosis disease are not present in the work site, putting others at risk.

Decisions as to whether the evaluation of individual employees is needed is based on many factors including national standards for certain occupations; statutory and regulatory law; and evaluation of work sites for the potential of encountering individuals with active tuberculosis disease. For any given work site, several of these factors may influence the type of evaluation needed by employees as well as the frequency of the evaluation.

EVALUATION FOR TUBERCULOSIS

The process of evaluation for tuberculosis will vary for each individual. Evaluation may be as simple as answering questions about past medical history and current health or it may be more extensive, requiring a number of tests. The need for testing and a more extensive evaluation will be based on an individual's personal health factors, the setting in which work occurs, and regulatory/statutory requirements. Employees should not be permitted to work until the full, initial TB evaluation is completed.

It is extremely important to remember that any evaluation for tuberculosis does not provide protection against future infection or disease. It only provides information on an individual's current TB status or risk.

Types of Evaluations:

TB Risk Assessment or "TB Screening"—The TB risk assessment is a series of questions designed to determine an individual's risk for either acquiring the TB bacteria in the body or of becoming ill with the disease, if infected. Questions may include information about current health status and recent illnesses, travel history, exposure to known individuals with TB disease, and selected medical diagnoses. While these questions may be asked by a licensed health care provider (MD, PA, NP, RN, LPN), consistent with Virginia professional practice acts, only physicians, physician's assistants, nurse practitioners, and registered nurses can assess risk for TB infection and/or disease based on the answers. Facilities and employers may design their own screening and clearance forms incorporating the elements found on VDH TB Risk Assessment form. For reference, an adult VDH TB Risk Assessment form can be found at: <http://www.vdh.virginia.gov/content/uploads/sites/112/2019/02/VA-TB-Risk-Assessment-and-User-Guide-2019-1.pdf> and a pediatric VDH TB Risk Assessment form can be found at: <http://www.vdh.virginia.gov/content/uploads/sites/112/2019/02/VA-TB-Risk-Assessment-for-Children-Under-6-and-User-Guide-2019.pdf>

Certain occupations and regulations allow and accept the results of the TB risk assessment without further required testing. However, regardless of regulations, individuals with positive findings during the TB risk assessment will require additional evaluation. Consistent with Virginia professional practice acts, only a physician, physician's assistant, nurse practitioner, or registered nurse may determine if employment clearance can be provided based on the answers or if additional testing is required before employment clearance can be given. Employment clearance will not be provided until all additional testing is completed, and it is safe for the individual to be present in the work site.

Testing for TB Infection – Testing for the presence of the TB bacteria in the body may be required for some seeking clearance for employment purposes. There are several types of tests available for this purpose. The healthcare provider will determine which test is most appropriate for each individual.

Blood Tests for TB Infection – An Interferon Gamma Release Assay (IGRA) is a blood test that can determine if a person has been infected with TB bacteria. An IGRA tests a person's blood in a laboratory to measure how the immune system reacts to the TB bacteria. IGRAs approved by the U.S. Food and Drug Administration (FDA) and available in the United States include QuantiFERON®-TB Gold in-Tube, QuantiFERON®-Plus, and T-SPOT® TB. These tests may be used in place of the tuberculin skin tests and are preferred for persons age 2 and older. Further information on the use of IGRA tests can be found at: <https://www.cdc.gov/tb/publications/factsheets/testing/IGRA.pdf>

Tuberculin Skin Test – The tuberculin skin test (TST) is performed by the injection of a small amount of TB protein under the skin. If the body has interacted with the TB bacteria in the past, the immune system will produce a reaction at the site of injection.

Some important points to know:

- TB bacteria are NOT injected into the body. Only a small amount of protein from the TB bacteria is injected. You can NOT get TB from the test.
- The TST is NOT an immunization or vaccine. It does not provide any protection against TB for those who are tested. It only shows the immune system responded to the bacteria from an exposure in the past. It is more like allergy testing.
- Individuals need to return 48-72 hours after the injection for the health care provider to observe any reaction present at the injection site. Consistent with professional practice acts, palpation and measurement of any reaction at the site can be performed by many types of health care workers, however, only physicians, physician's assistants, nurse practitioners, and registered nurses can determine the significance of any reaction and the need for additional evaluation. For registered nurses to perform this task, a standing protocol must be signed by a healthcare worker with prescriptive authority and be in place ([§ 54.1-3408. Professional use by practitioners](#), paragraph G).
- Individuals who may be screened and tested on a regular basis for TB exposure, as part of an infection control program, may need to have two tests upon employment. The health care provider will determine if two tests are needed.

Chest X-rays – Individuals with symptoms of active pulmonary tuberculosis or those with a new positive test for TB infection will need to obtain a chest x-ray. If abnormal findings are present in the x-ray, further testing will be required before employment clearance can be provided.

Additional Tests – Based on the evaluation process and the findings, additional testing, such as the collection of sputum, may be required. The healthcare provider will determine what additional evaluation is needed based on the findings to date. Employment clearance will be deferred until completion of the evaluation process.

In the event that an individual is found to have active TB disease, the health department will determine when an individual can safely enter a work setting and will provide employment clearance.

EVALUATION REQUIREMENTS OF SPECIFIC EMPLOYERS

There are differences in the type of evaluations needed by specific groups of employees. Requirements for pre-employment and ongoing TB evaluation are based on national standards for selected occupations as well as statutory and regulatory requirements. Although the health department assists agencies in determining regulatory requirements, it does not mandate specific evaluation requirements for specific settings.

As stated previously, regulations and standards for TB evaluation for occupational groups and settings are developed and implemented for several purposes. Specific groups of employees include:

Healthcare personnel – According to recommendations from the Centers for Disease Control and Prevention (CDC) and national standards, all newly employed healthcare personnel are required to have **baseline screening and testing for TB infection** prior to entering the work site. This includes a TB risk assessment, symptom screen and a test for the presence of TB infection (2-step TST or a single IGRA blood test). Based on the results of this testing, additional evaluation may be required prior to the granting of employment clearance using the process described above in the Evaluation for Tuberculosis section. Employees should not be permitted to work until the TB evaluation is completed. Treatment for Latent TB Infection (LTBI) is strongly encouraged for all health care personnel newly diagnosed with LTBI.

Healthcare personnel with a documented prior positive test for TB infection and documented normal chest radiograph performed after the positive test for TB infection do not require repeat TB testing or a repeat radiograph unless they are symptomatic. These individuals need a TB screening upon employment and should be offered and strongly encouraged to complete LTBI treatment, if previously untreated. If they elect to be treated for TB infection, a new chest x-ray will need to be performed prior to the initiation of treatment.

Annual TB testing of health care personnel is **not** recommended unless there is a known exposure or ongoing transmission at a healthcare facility. Health care personnel with untreated LTBI should receive an annual TB symptom screen and risk assessment. Symptoms for TB disease include any of the following: a cough lasting longer than three weeks, unexplained weight loss, night sweats or a fever, and loss of appetite.

Healthcare facilities might consider using annual TB screening for certain groups at increased occupational risk for TB exposure (e.g., pulmonologists or respiratory therapists) or in certain settings if transmission has occurred in the past (e.g., emergency departments). Facilities should work with the local health department to make these decisions.

Facilities should educate all front-line supervisors and managers about symptoms for TB disease so that any symptomatic individuals in the workplace are promptly identified and referred for immediate evaluation regardless of any periodic screening programs in place.

All healthcare personnel should receive TB education annually. TB education should include information on TB risk factors, the signs and symptoms of TB disease, and TB infection control policies and procedures.

Public School employees – All Virginia public school employees are required to be screened and if needed, tested prior to employment.

(<http://law.lis.virginia.gov/vacode/title22.1/chapter15/section22.1-300/>). There is no state requirement for ongoing periodic screening or testing. According to statute, an RN can sign the Report of Tuberculosis Screening for school employees. Employees should be aware that testing may be required in the event of exposure to an active case of tuberculosis in a school setting.

Correctional facilities - According to recommendations from the Centers for Disease Control and Prevention (CDC) and national standards, all persons working with correctional populations are required to have **2-step TST baseline testing for TB infection or single IGRA blood test** prior to entering the work site. Based on the results of this testing, additional evaluation may be required prior to the granting of employment clearance using the process described above in the Evaluation for Tuberculosis section.

In addition, the CDC recommends that all correctional employees be screened AND tested annually. Correctional facilities should refer to the MMWR, "Prevention and Control of Tuberculosis in Correctional and Detention Facilities: Recommendations from CDC", for additional information. (<https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5509a1.htm>).

Daycare centers, group homes, and other settings/programs - Based on the vulnerability of served populations, workers in other occupations may require TB evaluation prior to employment. The requirement for this evaluation is generally found in state regulations for each program. Regulations governing the vast majority of these programs accept the results of the TB risk assessment without further testing. However, regardless of regulations, individuals found to have positive findings during the TB risk assessment will require additional evaluation as noted above. A licensed health care provider (MD, PA, NP, RN) will determine if additional testing is required before employment clearance can be given. Employment clearance will not be provided until the additional testing is completed, and it is safe for the individual to be present in the work site.

Medicaid Waiver Programs – Individuals providing in-home services to clients under various Medicaid Waiver programs are required to have a TB evaluation prior to employment as well as annually thereafter. The Virginia TB Program recommends exempting follow-up screening for caregivers already residing with a client, or for extended family members/others providing care prior to enrollment in a Medicaid Waiver program. This recommended exemption does not apply to caregivers working for healthcare or other employment agencies.

Employment agencies providing personal care services under Medicaid waiver programs must consider the setting in which services are provided and match the level of screening to the site with the highest level of screening/testing required.

ADDITIONAL CONSIDERATIONS

All employers should remain alert for changes to recommendations and regulations concerning the need for TB evaluation by their employees. Employers should also provide copies of the governing regulation to their employees, if requested.

No evaluation for active tuberculosis disease is perfect. With all the tests used in the evaluation of individuals for tuberculosis, while extremely rare, it is possible to have infectious tuberculosis in spite of negative test results. Employers and work settings are cautioned to remain vigilant for employees and

others who appear ill. Such individuals should be referred for evaluation by a health care provider and be excluded from the work setting until the evaluation is complete and clearance is provided.

For questions not addressed in this document, please consult with your with the local/state health department, regulatory agency, or legal counsel.

EVIDENCE BASE

Centers for Disease Control Fact Sheet: Interferon-Gamma Release Assays (IGRAs) – Blood Tests for TB Infection. November 2011. <https://www.cdc.gov/tb/publications/factsheets/testing/IGRA.pdf>

Code of Virginia. § 54.1-3408. Professional use by practitioners.
<https://law.lis.virginia.gov/vacode/title54.1/chapter34/section54.1-3408/>

Code of Virginia. § 22.1-300. Tuberculosis certificate.
<https://law.lis.virginia.gov/vacode/title22.1/chapter15/section22.1-300/>

Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005. CDC Morbidity and Mortality Weekly Report. <https://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf>

Latent TB Infection Testing and Treatment: Summary of U.S. Recommendations. CDC, Division of Tuberculosis Elimination. December 2019. <https://www.cdc.gov/tb/publications/tbip/pdf/CDC-USPSTF-LTBI-Testing-Treatment-Recommendations-508.pdf>

Prevention and Control of Tuberculosis in Correctional and Detention Facilities: Recommendations from CDC. Morbidity and Mortality Weekly Report July 7, 2006. Endorsed by the Advisory Council for the Elimination of Tuberculosis, the National Commission on Correctional Health Care, and the American Correctional Association. <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5509a1.htm>

Screening for Tuberculosis and Tuberculosis Infection in High-Risk Populations Recommendations of the Advisory Council for the Elimination of Tuberculosis. CDC Morbidity and Mortality Weekly Report, September 8, 1995. <https://www.cdc.gov/mmwr/preview/mmwrhtml/00038873.htm>

Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection. CDC Morbidity and Mortality Weekly Review, June 9, 2000. <https://www.cdc.gov/mmwr/PDF/rr/rr4906.pdf>

Tuberculosis Screening, Testing, and Treatment of U.S. Health Care Personnel: Recommendations from the National Tuberculosis Controllers Association and CDC, 2019. Morbidity and Mortality Weekly Report. <https://www.cdc.gov/mmwr/volumes/68/wr/pdfs/mm6819a3-H.pdf>

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Virginia Tuberculosis (TB) Risk Assessment for Children Under 6 Years Old. February 2019.
<http://www.vdh.virginia.gov/content/uploads/sites/112/2019/02/VA-TB-Risk-Assessment-for-Children-Under-6-and-User-Guide-2019.pdf>